

Response Under 37 CFR 1.116

Expedited Procedure

Examining Group 3600

Application No. 09/975,088

Paper Dated: August 24, 2005

In Reply to USPTO Correspondence of February 24, 2005

Attorney Docket No. 3265-011733

REMARKS

The Office Action of February 24, 2005 has been reviewed and the Examiner's comments carefully considered. The present Amendment amends claim 1 and adds new claims 15-20, all in accordance with the originally-filed specification. No new matter has been added. Accordingly, claims 1-10 and 15-20 are pending in this application, and claims 1 and 15 are in independent form.

In the present Office Action, the Examiner has maintained his rejection of claims 1-10 for the reasons set forth in the previous Office Action of April 23, 2004. Specifically, claims 1, 2 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Hagemann patent. Further, claims 1, 3, 5 and 10 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Akeroyd patent in view of the Vala patent. In addition, claim 4 stands rejected under 35 U.S.C. § 103(a) as being obvious over the Akeroyd patent in view of the Vala patent, and in further view of the Bonaiti reference. Still further, claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Akeroyd patent in view of the Vala patent, and in further view of the Brainerd patent. Finally, claim 9 stands rejected under 35 U.S.C. § 103(a) as being obvious over the Akeroyd patent in view of the Vala patent, and in further view of the Nebot reference. In view of the foregoing amendments and the following remarks, Applicant respectfully requests reconsideration of these rejections.

The Examiner is thanked for responding to the arguments set forth in the previous Amendment, filed October 25, 2004. In particular, the Examiner has indicated that his rejection and reading of the prior art with respect to the previous set of claims requires only a portion of a greater thickness or strength on its face outward of the body when the gate is in the closed position, however there is no positive statement in the claim as to what other structure of the barrel has the lesser thickness in comparison with this portion of greater thickness. The

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foregoing amendment to independent claim 1 (as well as a limitation set forth in new independent claim 15) clearly indicates what this region of greater thickness or strength on the outward face of the body is greater than, namely, thicker than the face inward of the body, when the gate is in an open position. Accordingly, as discussed hereinafter, the independent claims of the present application more clearly define the structure of the karabiner of the present invention, and further obviate the interpretation of the Examiner.

Independent Claims 1 and 15

Independent claim 1 of the present application, as amended, is directed to a karabiner including a generally C-shaped body, with its free ends curved toward each other and forming a gap therebetween. A gate is positioned on one end of the body for closing the gap, and the gate has a locking barrel for locking the gate to the other end of the body. A region of the barrel overlaps the free end of the body when locking the gate in a closed position, and this region of the barrel has a greater thickness or strength on its face outward of the body when the gate is in this closed position, so as to reinforce the karabiner against inward forces applied to the gate regions thereof. In addition, this region of greater thickness or strength is thicker than the face inward of the body, when the gate is in an open position. In addition, the barrel is slid and rotated to unlock the barrel and open the gate, which illustrates a double locking function of the barrel.

New independent claim 15 is also directed to a karabiner having a generally C-shaped body, with its free ends curved toward each other and forming a gap therebetween. A gate is on one end of the body for closing the gap, and this gate has a locking barrel for locking the gate to the other end of the body. A region of the barrel overlaps the free end of the body when locking the gate in a closed position, and this region of the barrel has a greater thickness

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or strength on its face outward of the body when the gate is in a closed position, so as to reinforce the karabiner against inward forces applied to the gate region. In addition, this region of greater thickness or strength is thicker than the face inward of the body when the gate is in an open position. Still further, the barrel of the karabiner claimed in this claim is a triple locking barrel.

Accordingly, as discussed above, independent claim 1, as well as new independent claim 15, both specifically provide for the positioning of a region of greater thickness or strength on a face outward of the body, where this region of greater thickness or strength is thicker than the face inward of the body when the gate is in an open position. It is this region of greater thickness or strength on an outward face that provides additional strength to the gate structure, which is beneficial considering the use of a karabiner. In addition, the present invention allows the “thinner” side on the inward face to provide a reduction in gate open dimension, by keeping this dimension to a minimum.

The use of this outward bolstering, as specifically clarified in independent claims 1 and 15 reinforces the karabiner against side loading. This function can be grasped by examining the samples provided to the Examiner with the previously-filed Preliminary Amendment. It is a chief object of the present invention to strengthen the karabiner against such inward and sideward forces applied to the gate region, since excessive inward forces will eventually cause the gate to rupture and open. Excessive side forces may cause the karabiner to jam. Accordingly, by bolstering or providing a region of greater thickness on the gate (where this region of greater thickness is thicker than the face inward of the body when the gate is in an open position), the overall strength of the gate, and therefore the karabiner, is increased through the most critical loading and contact angles.

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Summary of the Cited Prior Art

The Hagemann patent is directed to a karabiner, and this patent is in the German language. The figures of the patent, and especially Fig. 3, illustrate a generally C-shaped body 1 that includes a gate 4 for closing a gap between the free ends of the body. A barrel portion 22 includes a rim structure 23 that extends completely around a distal end of the barrel.

The Akeroyd patent is directed to a safety clip for a harness, including a gate member 12 pivoted on a body member 10 against the turn spring pressure. The safety clip includes a ferrule 14 carrying an extended locking portion 16, which is rotatable against spring pressure from the locking position to a position in which the gate member can be opened inwardly. In order to prevent accidental opening of the clip, the gate member 12 is provided with a ferrule 14 formed with a longitudinal rib 15 having an extended locking portion 16, which normally lies opposite to the adjacent part 17 of the body member 10, such as to abut against it if opening pressure is applied to the gate member 12. In addition, the longitudinal rib 15 also acts as a thumb grip, but does not reinforce the barrel against side loading over a conventional barrel locking mechanism. This rib 15 is not a barrel structure for locking the gate.

The Vala patent is directed to a butt hook. The Examiner appears to use the Vala patent, and especially Fig. 1, for the alleged disclosure of a barrel 7 having a region of greater thickness completely around the barrel, as compared to the other end of the barrel that is of reduced outer dimension, so as to enhance the barrel strength against inward pressure.

The Bonaiti reference is directed to a snap hook with locking sleeves. It appears that the Examiner is using the Bonaiti reference for its disclosure of a double locking barrel for adding additional security to the structure. In particular, the Bonaiti reference discloses a two-part locking barrel: one part spring-biased to a locking position, and the other part adapted to threadedly screw the lock first part in the locking position. Accordingly, multiple parts are used

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to actually secure the barrel with the gate closed. In addition, the Bonaiti reference locks over the gate pivot 11, but does not overlap the free end of the snap hook body. *See* Fig. 2.

The Brainerd patent is directed to a formed sheet metal karabiner gate. It appears that the Examiner is using the Brainerd patent for its disclosure of forming a barrel from various materials, such as carbon steel, aluminum, stainless steel and the like, such that the barrel is capable of withstanding forces of up to 25kN. In particular, the Brainerd patent discusses the use of high-quality metals with good durability in the structure, such as stainless steels, 4130 alloy steels, titanium, aluminum, etc.

The Nebot reference is directed to a closure device in a spring hook. It appears that the Examiner is using the Nebot reference for its disclosure of a substantially solid cylindrical gate. In particular, the Examiner believes that the use of such a solid gate would be desirable for enhanced strength.

None of the Cited Prior Art Teaches or Suggests the Region of Greater Thickness Set Forth in Independent Claims 1 and 15.

As discussed above, independent claims 1 and 15 both specifically elucidate the position and orientation of the region of greater thickness, which is greater on the face outward of the body when the gate is in a closed position, and which is thicker than the face inward of the body when the gate is in an open position. None of the prior art references, including the Hagemann patent, the Akeroyd patent, the Vala patent, the Bonaiti reference, the Brainerd patent and the Nebot reference, whether used alone or in combination, teaches or suggests such a feature.

With respect to the Hagemann patent, the Examiner indicates that the language in the previous claims was not definitive enough to prohibit the interpretation that such a region of greater thickness (for example, portion 23 in the Hagemann patent) extends completely around

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the barrel. Accordingly, through the foregoing amendment, and with respect to the presently-claimed invention, the region of the barrel in question has a greater thickness or strength on its face outward of the body when the gate is in a closed position, and this region is “greater” than the face inward of the body when the gate is in an open position, which allows for the maximum gate-opening functionality. The device of the Hagemann patent cannot provide such functionality, as it is thick completely around the barrel. In addition, the Hagemann patent does not disclose a barrel that is slid and rotated to unlock the barrel and open the gate, instead showing a simple spring-loaded and single-action sliding barrel.

The Akeroyd patent includes a body 10 that is generally C-shaped and a locking barrel 14. The locking member, namely the ferrule 14 includes a rib 15 and a locking portion 16, which slides past the part 17 until the fully closed position is reached. Accordingly, the device of the Akeroyd patent includes an entirely different locking mechanism than that claimed in the present invention. In fact, the Akeroyd patent does not include a locking barrel at all, instead using their rib 15 to provide locking. The rib 15 is mounted on a barrel (ferrule), but this mounted position merely allows rotation of the rib 15, and does not constitute a locking barrel. Independent claims 1 and 15 of the present invention both specify that a locking barrel is used for locking the gate to the other end of the body, such that when compared to the device of the Akeroyd patent, the barrel or ferrule does not lock the gate to the other end of the body, but instead acts as a mounting area for the rib. Again, it is this rib 15 that locks the gate to the other end of the body. Still further, the safety clip of the Akeroyd patent does not disclose a barrel that is slid and rotated to unlock the barrel and open a gate, also as claimed in independent claim 1 of the present application. In addition, and importantly, the device of the Akeroyd patent does not disclose or suggest a barrel having a region of greater thickness or strength on an outward

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face of the body (when the gate is closed), where this region is thicker than the inward face of the body (when the gate is open).

The Vala patent, as with the Hagemann patent, discusses a device that has a uniformly thick barrel slid over the free end of the C-shaped body. Accordingly, the barrel 7 has a region of thickness that completely surrounds the barrel, and therefore does not include a region of the barrel that overlaps the free end of the body, where this region of the barrel has a greater thickness or strength on its face outward of the body, and where this region is thicker than the face inward of the body when the gate is in the open position. Therefore, the clarifying amendment to independent claim 1 (and the similar recitation in new independent claim 15) define a structure that is not taught or suggested in the Vala patent. Still further, the barrel of the butt hook of the Vala patent is slid to lock and unlock the gate, and is not rotated and slid, as specifically set forth in independent claim 1 of the present application.

The Bonaiti reference illustrates a double-locking barrel 19, 14, but includes two parts, with one part being spring-biased and the other part being screw-threaded, in order to obtain a locking position. Accordingly, the locking requires two motions, as opposed to the simple sliding and rotating of the locking mechanism of the present invention. However, more importantly, the barrel of the Bonaiti reference locks over the gate pivot 11, and does not overlap the free end of the karabiner body at all. In addition, and as discussed above in connection with the previous references, the barrel of the Bonaiti reference does not include a region of greater thickness or strength on its face outward of the body when the gate is in a closed position, where this region of greater thickness or strength is thicker than the face inward of the body when the gate is in an open position, as specifically set forth in independent claims 1 and 15 of the present application.

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The Brainerd patent is deficient in the same manner as the previous references.

In particular, the device of the Brainerd patent does not include a region of the barrel overlapping the free end of the body, where this region has a greater thickness or strength on its face outward of the body, as discussed above. The Brainerd patent does not teach or suggest a device that has this region of greater thickness or strength, which is thicker than the face inward of the body when the gate is in the open position.

Accordingly, the Bonaiti reference does not teach or suggest a device having a region of greater thickness or strength on the barrel, where this region of greater thickness or strength is thicker than the face inward of the body when the gate is in the open position, as specifically set forth in the claims of the present invention.

With respect to the Nebot reference, it appears that the Examiner is using this reference to teach a solid gate. The Nebot reference does not teach a karabiner or hook that includes a region of the barrel overlapping the free end of the body when locking the gate in a closed position. In addition, the Nebot reference does not teach or suggest a region of the barrel having a greater thickness or strength on its face outward of the body when the gate is in a closed position, where this region of greater thickness or strength is thicker than the face inward of the body when the gate is in an open position. Such limitations are specifically set forth in independent claims 1 and 15 of the present application. Further, the barrel of the hook of the Nebot reference is not slid or rotated to unlock the barrel and open the gate, as set forth in independent claim 1 of the present application.

The Cited Prior Art Does Not Teach or Suggest a Karabiner Having a Triple Locking Barrel

New independent claim 15 is directed to a karabiner having the C-shaped body, gate, locking barrel and region of greater thickness or strength, as discussed in detail above.

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Accordingly, independent claim 15 distinguishes around the prior art cited by the Examiner for these reasons. However, independent claim 15 also discloses a triple locking barrel.

Applicant respectfully submits that none of the prior art references cited by the Examiner disclose such a triple locking barrel. As discussed above, while the Bonaiti reference does illustrate and teach a double-locking barrel, this reference does not teach or suggest a triple locking barrel. Applicant submits that this is an indication that the triple locking barrel is a non-obvious feature of independent claim 15, since the Bonaiti reference does not teach a triple locking barrel, which adds further additional security features to the structure.

For these reasons, none of the Hagemann patent, the Akeroyd patent, the Vala patent, the Bonaiti reference, the Brainerd patent, nor the Nebot reference, whether used alone or in combination, teach or suggest a karabiner that includes this triple locking barrel. Such a feature is specifically set forth and claimed in independent claim 15 of the present application. Accordingly, independent claim 15 has additional reasons for patentability over the prior art of record.

There is No Motivation to Combine the References Cited in the Office Action

The Akeroyd patent is combined with the Vala patent, the Bonaiti reference, the Brainerd patent and the Nebot reference (in various combinations) in order to reject claims 1 and 3-10 under 35 U.S.C. § 103(a). In the absence of some “clear and particular” motivation to combine the teachings of the cited prior art, the rejection is improper. Winner Int'l Royalty Corp. v Wang, 202 F.3d 1340, 1348-49 (Fed. Cir. 2000). “Numerous decisions emphasize that such a combination of reference teachings is improper unless the prior art suggests such a combination.” Chisum, § 5.04[1][d], p. 5-278. *See, e.g., In re Bond*, 910 F.2d 831 (Fed. Cir. 1990); Ecolochem, Inc. v. Southern Calif. Edison Co., 227 F.3d 1361, 1371 (Fed. Cir.

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2000)(“Our case law makes clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references.”) Again, the Akeroyd patent relates to an entirely different locking mechanism than the mechanism set forth in claims 1 and 15 of the present application. One of ordinary skill in the art would not consider combining the teachings of the Akeroyd patent with a locking mechanism of the type claimed in the present application, and there would be no motivation to combine the teachings of the Akeroyd patent with the teachings of the locking mechanisms discussed in the Vala patent or the Bonaiti reference. Accordingly, absent this motivation to combine, together with the many differences in structure, the obviousness rejection should be withdrawn. However, even if combined, and as discussed in detail above, the cited prior art does not yield a karabiner having the key features of the present invention set forth above. Instead, the combination of these references would yield a structure that is unworkable and non-obvious in view of the present invention.

The Claims are Now in Allowable Form

For the foregoing reasons, independent claim 1 of the present application, as amended, is not anticipated by or rendered obvious over the Hagemann patent, the Akeroyd patent, the Vala patent, the Bonaiti reference, the Brainerd patent, the Nebot reference, or any of the prior art of record, whether used alone or in combination. There is no hint or suggestion in any of the references cited by the Examiner to combine these references in a manner that would render the invention, as claimed, obvious. Reconsideration of the rejection of independent claim 1 is respectfully requested.

Claims 2-10 depend either directly or indirectly from and add further limitations to independent claim 1 and are believed to be allowable for the reasons discussed hereinabove

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in connection with independent claim 1. Therefore, for all the above reasons, reconsideration of the rejection of claims 2-10 is respectfully requested.

With respect to newly-added independent claim 15, this claim is also not anticipated by or rendered obvious over the Hagemann patent, the Akeroyd patent, the Vala patent, the Bonaiti reference, the Brainerd patent, the Nebot reference or any of the prior art of record, whether used alone or in combination. Further, there is no hint or suggestion in any of the references cited by the Examiner to combine these references in a manner which would render the invention, as claimed, obvious. In addition, claims 16-20 depend either directly or indirectly from and add further limitations to independent claim 15 and are believed to be allowable for the reasons discussed hereinabove in connection with independent claim 15.

For all the foregoing reasons, Applicant believes that claims 1-10 and 15-20, as amended and added, are patentable over the cited prior art and in condition for allowance. Reconsideration of the rejections and allowance of all pending claims 1-10 and 15-20 are respectfully requested.

Respectfully submitted,

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